

WHAT IS CLAIMED IS:

1. A fluctuation detecting apparatus including:
a light receiving portion for detecting an image
signal for an object in each of a plurality of areas;

5 a judging circuit for judging from the image
signal obtained in each of said areas whether an object
located at a long distance is mixed with an object
located at a short distance; and

a fluctuation amount calculating circuit for
10 independently finding fluctuation data by the use of
the image signal of the area in which said object
located at a short distance exists and the image signal
of the area in which said object located at a long
distance exists when said judging circuit judges that
15 the object located at a long distance is mixed with the
object located at a short distance, and calculating a
rotational fluctuation amount and a shift fluctuation
amount on the basis of said fluctuation data.

20 2. A fluctuation detecting apparatus according to
Claim 1, wherein said fluctuation amount calculating
circuit separates the rotational fluctuation amount and
the shift fluctuation amount from the difference
between the fluctuation data obtained from the image
25 signal of said object located at a short distance and
the fluctuation data obtained from the image signal of
said object located at a long distance.

3. A fluctuation detecting apparatus according to Claim 1, wherein said light receiving portion outputs image signals corresponding to the absolute distances to said objects, and said fluctuation amount
5 calculating means finds fluctuation data from the image signals corresponding to said absolute distances.

4. A fluctuation detecting apparatus including:
a light receiving portion for detecting an image
10 signal for an object in each of a plurality of areas;
a distance calculating circuit for calculating the distance to the object in each of said areas from the image signal obtained in each of said areas;
a judging circuit for judging from the distance to
15 the object in each of said areas whether an object located at a long distance is mixed with an object located at a short distance; and
a fluctuation amount calculating circuit for
independently finding fluctuation data by the use of
20 the image signal of the area in which said object located at a short distance exists and the image signal of the area in which said object located at a long distance exists when said judging circuit judges that
the object located at a long distance is mixed with the
25 object located at a short distance, and calculating a rotational fluctuation amount and a shift fluctuation amount on the basis of said fluctuation data.

5. A fluctuation detecting apparatus according to Claim 4, wherein said fluctuation amount circulating circuit separates the rotational fluctuation amount and the shift fluctuation amount from the difference

5 between the fluctuation data obtained from the image signal of said object located at a short distance and the fluctuation data obtained from the image signal of said object located at a long distance.

10 6. A fluctuation detecting apparatus according to Claim 5, wherein said fluctuation amount calculating circuit makes the difference between the fluctuation data obtained from the image signal of said object located at a short distance and the fluctuation data
15 obtained from the image signal of said object located at a long distance into the shift fluctuation amount.

7. A fluctuation detecting apparatus according to Claim 4, wherein said judging circuit compares the
20 distances to the objects obtained from the image signal of each area calculated by said distance calculating circuit with a threshold value to thereby detect the object located at a short distance and the object located at a long distance.

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8. A fluctuation detecting apparatus according to Claim 4, wherein said fluctuation amount calculating

circuit selects the nearest object when a plurality of objects located at a short distance are detected by said judging circuit, and selects the farthest object when a plurality of objects located at a long distance are detected, and calculates the fluctuation amount.

9. A fluctuation detecting apparatus according to Claim 1, wherein said light receiving portion is a line sensor.

10. A fluctuation detecting apparatus according to Claim 1, wherein said light receiving portion is a two-dimensional area sensor.

11. An apparatus with the fluctuation detecting function including:

a light receiving portion for detecting an image signal for an object in each of a plurality of areas;

a judging circuit for judging from the image signal obtained in each of said areas whether an object located at a long distance is mixed with an object located at a short distance;

a fluctuation amount calculating circuit for independently finding fluctuation data by the use of the image signal of the area in which said object located at a short distance exists and the image signal of the area in which said object located at a long

distance exists when said judging circuit judges that the object located at a long distance is mixed with the object located at a short distance, and calculating a rotational fluctuation amount and a shift fluctuation amount on the basis of said fluctuation data;

a first correction device for correcting rotational fluctuation on the basis of the rotational fluctuation amount calculated by said fluctuation amount calculating circuit; and

a second correction device for correcting shift fluctuation on the basis of the shift fluctuation amount calculated by said fluctuation calculating circuit.

12. An apparatus with the fluctuation detecting function according to Claim 11, wherein when said judging circuit judges that the object located at a long distance is not mixed with the object located at a short distance, one of said first correction device and said second correction device is driven.

13. An apparatus with the fluctuation detecting function according to Claim 11, wherein said first correction device corrects the rotational fluctuation by changing the angle of incidence of a beam incident on a light receiving surface, and said second correction device corrects the shift fluctuation by

moving the light receiving surface and an optical system as a unit.

14. A fluctuation detecting apparatus including:
5 a fluctuation amount calculating circuit for detecting a fluctuation state and obtaining a fluctuation state signal for each of an object located nearer than a first predetermined distance and an object located farther than a second predetermined
10 distance, and calculating a rotational fluctuation amount and a shift fluctuation amount from the fluctuation state signal obtained for each object.

15. A fluctuation detecting apparatus according
15 to Claim 14, wherein said calculating circuit calculates said shift fluctuation amount from the difference between the fluctuation state signal detected for the object located nearer than said first predetermined distance and the fluctuation state signal
20 detected for the object located farther than said second predetermined distance.

16. A fluctuation detecting apparatus according
to Claim 15, wherein a rotational fluctuation amount is
25 calculated from the fluctuation state signal detected for the object located farther than said second predetermined distance.

17. A fluctuation detecting apparatus according to Claim 14, further including:

a light receiving portion for receiving images from said objects; and

5 wherein said fluctuation amount calculating circuit detects the fluctuation state on the basis of the difference between the positions of the images on said light receiving portion at a time interval between the images being received by said light receiving
10 portion.

18. An apparatus with the fluctuation detecting function including:

a fluctuation amount calculating circuit for
15 detecting a fluctuation state and obtaining a fluctuation state signal for each of an object located nearer than a first predetermined distance and an object located farther than a second predetermined distance, and calculating a rotational fluctuation
20 amount and a shift fluctuation amount from the fluctuation state signal obtained for each object;

a first correction device for correcting the angle of incidence of a beam incident on a light receiving surface on the basis of the rotational fluctuation
25 amount obtained by said fluctuation amount calculating circuit; and

a second correction device for moving the light

receiving surface and an optical system as a unit is the direction of translation on the basis of the shift fluctuation amount obtained by said fluctuation amount calculating circuit.

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19. An apparatus with the fluctuation detecting function according to Claim 18, wherein when said objects are single, one of said first and second correction devices is operated by the fluctuation state signal obtained for said object.

20. An apparatus with the fluctuation detecting function according to Claim 18, wherein said first correction device corrects rotational fluctuation by changing the angle of incidence of the beam incident on the light receiving surface, and said second correction device corrects shift fluctuation by moving the light receiving surface and the optical system as a unit.

20 21. An apparatus with the fluctuation detecting function according to Claim 11, which is a camera.